

ABSTRACT OF THE DISCLOSURE

The present invention provides a black hexavalent chromium-free plating treatment system in which the corrosion resistance of a surface of a metal part is improved by activating the surface of a zinc-plated coating of the metal part in a treatment solution in a dilute nitric acid activation treatment step, subsequently forming a black coating in an inorganic salt solution containing trivalent chromium and iron components as main ingredients in a black chromate treatment step, forming a conversion coating in a solution of inorganic salt and organic acid containing trivalent chromium and silica as main ingredients in a finish treatment step, and drying the resulting metal part. Therefore, even in a black trivalent chromate coating, sufficient corrosion resistance and sufficient strength are obtained. Moreover, a black trivalent chromate coating with heavy feeling is obtained for the first time. In addition, because the coating is one which is made mainly of trivalent chromium, less penetration into the ground occurs and the probability of occurrence of soil pollution caused by penetration of harmful substances into the ground is reduced.